

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently amended) An intermediate product carrying apparatus for taking a carrier, which is carried between a plurality of process systems and which stores a plurality of intermediate products, into a desired process system, and then transferring the plurality of intermediate products in the carrier to a single wafer carrying conveyor, which carries the intermediate products in a single wafer state to an intermediate product manufacturing apparatus provided in the desired process system, the intermediate product carrying apparatus comprising:

an intermediate product transfer means provided in the desired process system, for taking the carrier into the desired process system and transferring the intermediate products between the carrier and another carrier, the intermediate product transfer means comprising:

a carrier stocker having a first plurality of carrier positions on an order-change processing side of the carrier stocker and a second plurality of carrier positions on a transfer side of the carrier stocker, the transfer side of the carrier stocker being adjacent to the single-wafer carrying conveyor;

a carrier robot for transferring the carrier between an inter-process carrying conveyor and at least one carrier position selected from the first and second plurality of carrier positions on the carrier stocker; and

a change order robot adjacent to the order-change processing side of the carrier stocker for transferring the intermediate products stored in at least one carrier located in the first plurality of carrier positions on the order-change processing side of the carrier stocker to a plurality of storage cases, for changing an arrangement order of the intermediate products, and for transferring the intermediate products from the storage cases to the at least one carrier located in first plurality of carrier positions on the order-change processing side of the carrier stocker.

2. (Original) The intermediate product carrying apparatus according to Claim 1,

wherein the single wafer carrying conveyer has a plurality of platforms in the carrying direction, and each platform holds at least one intermediate product.

3. (Currently amended) The intermediate product carrying apparatus according to Claim 1 further comprising: [[.]]

~~wherein the intermediate product transfer means comprises:~~

~~a carrier stocker holding a plurality of carriers;~~

~~a first transfer section taking the carriers carried between process systems into the carrier stocker, and removing the carriers from the carrier stocker;~~

~~an intermediate product stocker storing the intermediate products;~~

~~an intermediate product transfer and order change means transferring the intermediate products stored in the carrier of the carrier stocker to the intermediate product stocker, and storing again the intermediate products of the~~

~~intermediate product stocker into the carrier of the carrier stocker, thereby changing the arrangement order of the intermediate products; and~~

a ~~second~~ transfer section comprising a transfer robot for transferring the order-changed intermediate products between at least one carrier located in of the plurality of carrier positions on the transfer side of the carrier stocker ~~carrier~~ and the single wafer carrying conveyer.

4. (Currently amended) The intermediate product carrying apparatus according to Claim 3,

wherein the ~~second~~ transfer section ~~comprises at least one transfer robot, and when the second transfer section~~ comprises a plurality of transfer robots, and wherein a tray for the intermediate products is provided between each transfer robot of the plurality of ~~the~~ transfer robots.

5. (Original) The intermediate product carrying apparatus according to Claim 4,

wherein the intermediate products are semiconductor wafers, and a plurality of manufacturing apparatuses for processing the intermediate products are arranged along the single wafer carrying conveyer.

6. (Currently amended) An intermediate product carrying method of taking a carrier, which is carried between a plurality of process systems and which stores a plurality of intermediate products, into a desired process system, and then transferring

and carrying the intermediate products of the carrier to another carrier, the method comprising:

a carrier take-in step of taking the carrier, which is carried between process systems and which stores the plurality of intermediate products, into the desired process system;

an intermediate product transfer step of transferring the intermediate products stored in the carrier and changing an order of the intermediate products in the carrier, and transferring the transferred intermediate products to a single wafer carrying conveyer; and

an intra-process single wafer carrying step of carrying the intermediate products in a single wafer state to an intermediate product manufacturing apparatus provided in the process system by the single wafer carrying conveyer; wherein the changing the order of the intermediate products in the carriers

comprises:

transferring the intermediate products in the carrier to at least one storage case;
and transferring the intermediate products from the at least one storage case to the carrier in a changed order.

7. (Original) The intermediate product carrying method according to Claim 6, wherein the intermediate products comprises semiconductor wafers, the single wafer carrying conveyer has a plurality of platforms in the carrying direction, and each platform holds at least one intermediate product.

8. (Currently amended) In a system including:

a plurality of process systems each including at least one product manufacturing apparatus and a single product carrying conveyer which carries products in a single product state relative to the at least one product manufacturing apparatus; and

a carrier conveyer which conveys carriers between the process systems, each carrier storing a plurality of products;

the improvement comprising:

an intermediate product carrying apparatus disposed in at least one of the process systems, the intermediate product carrying apparatus taking carriers from the carrier conveyer and delivering the products from the carrier to the single product carrying conveyer;

wherein the intermediate product carrying apparatus comprises:

a carrier stocker having a first plurality of carrier positions on an order-change processing side of the carrier stocker and a second plurality of carrier positions on a transfer side of the carrier stocker, the transfer side of the carrier stocker being adjacent to the single product carrying conveyer;

a carrier robot for transferring the carrier between the carrier conveyer and at least one carrier position of the first and second plurality of carrier positions on the carrier stocker; and

a change order robot adjacent to the order-change processing side of the carrier stocker for transferring intermediate products stored in at least one carrier located in the

first plurality of carrier positions on the order-change processing side of the carrier stocker to a plurality of storage cases, for changing an arrangement order of the intermediate products, and for transferring the intermediate products from the storage cases to the at least one carrier located in first plurality of carrier positions on the order-change processing side of the carrier stocker.